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Passed March 19th
1825

Inaugural dissertation

On Calomel

By

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Georgia

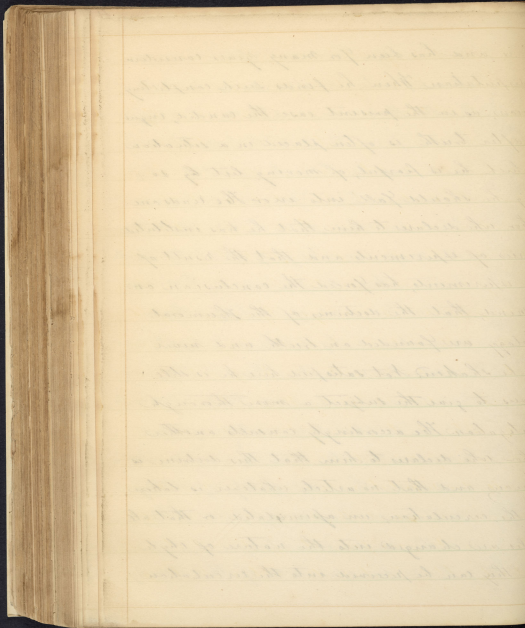
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In the present improved state of Medical Science, the student unacquainted with the practical part of his profession, (that is without some experimental knowledge) will often find, himself at a loss, when he is called upon to produce a dissertation, on some particular medicine or disease, and he will be compelled to resort to the writings or experience of others to confirm his Theoretical observations. I am aware that I have selected as a subject, a medicine upon which much has been said, both in its praise, and with an intention, to prejudice the mind of the profession, and the world at large against it; but having seen some of its beneficial ^{effects} in the cure of disease, I can not refrain from speaking in its praise, in the highest terms. It is unnecessary for me at present to enter into an elaborate description of Mercury or

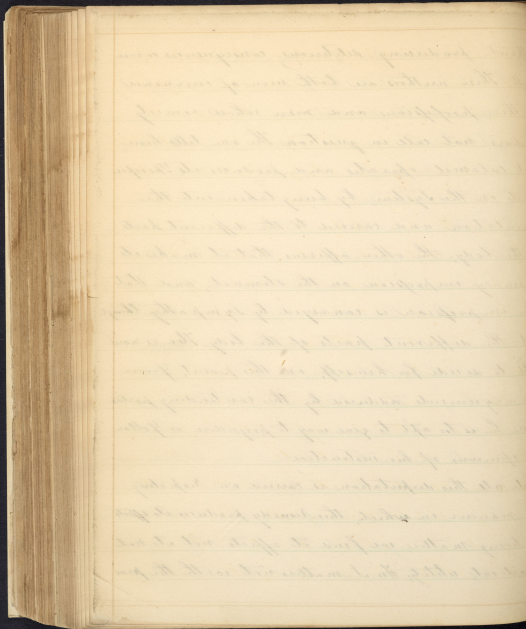
of its various preparations suffice it to say it
has been used in some one of its forms, for a
great length of time I shall only attempt
to give some account of Calomel, that is
of its chemical properties, or its component
parts according to the latest improvement
in Chemical Science and of its application
to the cure of some of the diseases to which
man is liable. According to the new doctrine
of Pary Calomel consists of one proportional
part of Chlorine, and one proportional part
of the Metal, and should therefore be denom-
inated, a Chloride or a protochloride of Mercury,
which is the title most generally given to it.
But should the present doctrine of Chlorine
ever be exploded, we shall again be compelled
to change the term chloride for some other.
Would it not be preferable in the present
case, to use the term calomel, by which the

article is generally known, until we arrive
at a more definite conclusion, as to its com-
position? As there are several methods of pro-
curing Calomel, from the metal, I shall not
undertake to describe them here, but shall pro-
ceed to the examination of some of its sensible
qualities; When procured pure it exhibits a semi-
transparent mass, consisting of short prismatic
crystals, terminated by pyramids. Calomel
is inodorous, insipid, and of an ivory colour.
It becomes darkened by exposure to light, and
is nearly insoluble in water. The alkalis and
lime water decompose it and turn it black.
Serp and the sulphurets of antimony and
potash, decompose it, also iron ^{and} cad and copper.
Hence we discover the impropriety, of using
metallic mortars, in preparing prescriptions
into which this medicine enters.
Respecting the *modus operandi* of this remedy

there is and has been for many years considerable disputation. When he finds such conflicting opinions, as in the present case, the candid, enquirer after truth is often placed in a situation in which he is fearful, of moving, but by so doing he should fall into error. He reads one author, who declares to him that he has instituted a series of experiments, and that the result of those experiments, has forced the conclusion on his mind, that the doctrines of the Humoral Pathology are founded on truth and never can be shaken. Not satisfied here he is still anxious to give the subject a more thorough investigation. He accordingly consults another author, who declares to him that this doctrine is erroneous and that no article whatever is taken into the circulation, unassimilated, or that all articles are changed into the nature of chyle before they can be received into the circulation.



without producing detriious consequences or even
death. These authors are both men of eminence
in their profession and men whose veracity
he dare not call in question. The one tells him
that colic operates and produces its specific
effects on the system, by being taken into the
circulation and carried to the different parts
of the body; the other affirms that it makes its
primary impression on the stomach, and that
this impression is conveyed by sympathy throug
out the different parts of the body. He is now
left to decide for himself, on this point, from
the arguments adduced by the contending parties.
Here he is too apt to give way to prejudice, or follow
the opinions of his instructors. ~~He forms his~~
While all this disputation is carried on respecting
the manner in which, this remedy produces its effects
on living matter, we find it effects not its real
practical utility. In it matters not with the prac



trial, physician, whether it is taken into the
circulation, or makes its primary impression
on the Stomach, and by Sympathy affects the
other parts of the body; The result he sees, its utility
he has experienced, and its general applicability
to the cure of very many diseases, he knows how
to appreciate. Nevertheless the truly scientific
physician, not only wishes to know, that cer-
tain remedies will produce certain effects, when
administered under certain circumstances, but he
is anxious to know the manner in which
these remedies act, in order to produce those
effects. The great variety of diseases, to the
cure of which this remedy has been applied
will make it impracticable for me to give
a full investigation of the whole; I shall there-
fore only mention some of those diseases in
which it appears to me to act with the
most decidedly beneficial effects.

I am convinced that Calomel is a remedy -
which has been as much abused, by empirics
and ignorant pretenders, as any other, but this
does not detract from its real utility, when in
the hands of one who knows its effects and its
application. Take from the physician Calomel
and you deprive him of one of the strongest
weapons, with which he is enabled to meet
and successfully combat disease. Return it again
and you enable him to go forth almost unde-
mayed, to contend with some of the most
violent forms of disease to which man is liable.
In fact may I not say, that it is the samp-
son of the Materia Medica or the Magnum dei
donum to man when judiciously employed -
As a remedy in fevers Calomel has long been
used, and its beneficial effects are well
known. Fever is a general disease of the system,
characterised, by diminution, generally, but always

by a morbid condition of the action of the
organs productive of the secretions, the skin is
dry, with partial or entire cessation of its
natural functions diminished, secretion of Urine &
parched mucous surfaces as seen in the condi-
tion of the tongue, diminished glandular
action, exemplified in the absence of Saliva,
and no doubt, the gastric juice, and mucous
secretions of the bowels, are in many cases
scanty. In some cases the bile is not produced
in usual quantities, more commonly however
a green and vitiated matter escapes in enormous
quantities from the liver, and forms a solitary
instance of increased action, in a torpid system.
In fevers we sometimes find derangement in
the muscular system, as shown by pains, and
general laxity or an indisposition to action
and likewise, by the irregular and spasmodic
movements of the heart. The nervous system, is

impaired, in energy, or is in increased but, irregular actions. The sensations, are either dull or painfully acute; either there is stupor or delirium to some extent. These are some of the effects of fever on the human system. If we could at once point out the cause of this general anarchy, we should not long be at a loss for certain antidotes, but after all the disputes on the subject may we not say that the Pathology of fever is unknown, and we are left to pursue the old mode of alleviating symptoms or effects. These are increased or lessened secretions, morbid action, in the moving powers of the blood, local pains, muscular derangement, and an unnatural dullness, or sensitiveness, of the nervous system. If we can alleviate all these effects of symptoms, we may be very certain, that we can either remove or render harmless the unknown cause of all —

Having these symptoms before us, we are to use such remedies, as are best calculated, to restore their healthy action to the various organs of the system. We will now enquire, what are the effects of Calomel on the system. We find that, when exhibited in doses of 10 or 15 grains it operates as a cathartic, and sometimes as an emetic. When given in large or cathartic doses it irritates the stomach, and its good effects are confined to the intestines and liver.

But when given in small and frequently repeated doses, it acts on every organ, and if carried to sufficient extent, to produce slight ptyalism. It in many cases, undermines the often hidden cause of disease, and establishes its own peculiar action in the system, which gradually subsiding leaves the body in a comparatively healthy state. From what has been said of the effects of Calomel, on the system and the symptoms

of fever, it will, at once be seen that it is
one of the most powerful remedies in the
cure of this class of disease.

It may be combined with various other rem-
edies, as with Ialap to increase its cathartic
properties, with opium to allay irritation, and
with small portions of Tart. antimony, with
a view of determining to the surface, and
producing an attractive action in the capilla-
ries. In all fevers there is a diseased action in this
set of vessels, and from the pervading qualities
of calomel, ^{and the power which it possesses} when combined with certain, dia-
phoretics, of acting on the same, we may safely
recommend it as a valuable remedy, in febrile
diseases.

In the writings of Dr Armstrong on Typhus
fever we find the following remark: "Calomel
has a more general influence than any other
cathartic; it excites a degree of nausea in the

Stomach, emulges the biliary ducts, dislodges
Seyhala most effectually, corrects morbid se-
cretions, and with small doses of antimonial
powder, or of the Tartarite of antimony promotes
perspiration as well as purges. Those who have
read the writings of Johnson on the diseases
of tropical climates will know how to appreciate
the value of Calomel, in the treatment of that
form of fever which prevails ⁱⁿ hot climates.

In intermittents, after the exhibition of an Emetic
we find no remedy, which acts so well in cleans-
ing the alimentary canal, of that load of un-
healthy secretions with which, it is always more
or less burthened, and as the Chylific ^{or} viscera
are more or less deranged, in this disease, it becomes
a matter of great importance that a healthy
state of these viscera, should be brought about
by some means, and if we search the Materia
Medica through, we shall discover no remedy

is well calculated to accomplish our object
as Calomel.

It is a fact, (I believe, admitted by all) that
we are acquainted with no remedy which acts
with more certainty, or energy on the liver or indeed
on the whole system. Professor Chapman when
speaking of mercury says "Confessedly there
is no article of the materia Medica so diffusi-
ble in its effects, which pervading the whole
system, enters into every recess, and acting on
every part, leaves no morbid impression untouched.
It prepares the system for the exhibition of the
bark, which coming in after the bowels have
been thoroughly evacuated by Calomel acts
with the best effects."

There is a form of this disease, which has pre-
-vailed for some years in the Southern States,
which calls for more energetic means than are
employed in ordinary cases. The patient is

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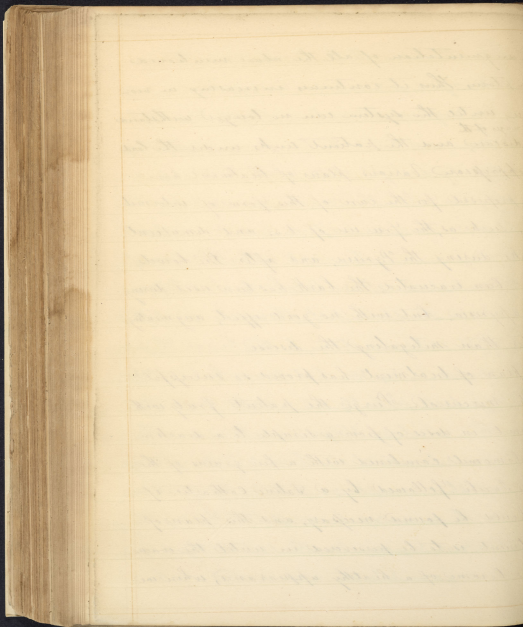
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suddenly attacked with the disease, and three or
four paroxysms put an end to his existence, unless
the most vigorous means be employed to rescue him.
The disease comes on with languor and drowsiness
preceded, by a slight chill, which lasts only a
few minutes, when the most powerful reaction
takes place and in half an hour, the patient
is laboring under the most violent degree of
excitement, respiration laboured, skin hot and
dry, tongue parched, Sick Stomach, great thirst
and slight determination to the head. The pulse
in this disease is regular but somewhat irritated.
This stage lasts, probably six or eight hours, after
which the sweating stage comes on, and the
patient is relieved of all those distressing symp-
toms, but still complains of dull, languid sen-
sation, with a sense of heaviness in the right
Hypochondriac region. On the succeeding day
the chill again returns accompanied with

an augmentation of all the above mentioned symptoms. Thus it continues increasing in violence, until the system can no longer withstand the ^{ravages of the} disease, and the patient sinks under the load of oppression. Various plans of treatment have been proposed for the cure of this form of intermittent, such as the free use of A.S. and demulcent drinks during the Pyrexia, and after the bowels have been evacuated, the bark has been used during the apyrexia, but with no good effect, augmenting rather than mitigating the disease.

No plan of treatment has proved so successful as the Mercurial. Purge the patient freely with calomel in doses of from a scruple to a drachm of calomel combined with a few grains of the Pulvis Sacchi. followed by a Saline Cathartic if it should be found necessary, and this plan of treatment is to be persevered in until the evacuations become of a healthy appearance, when we

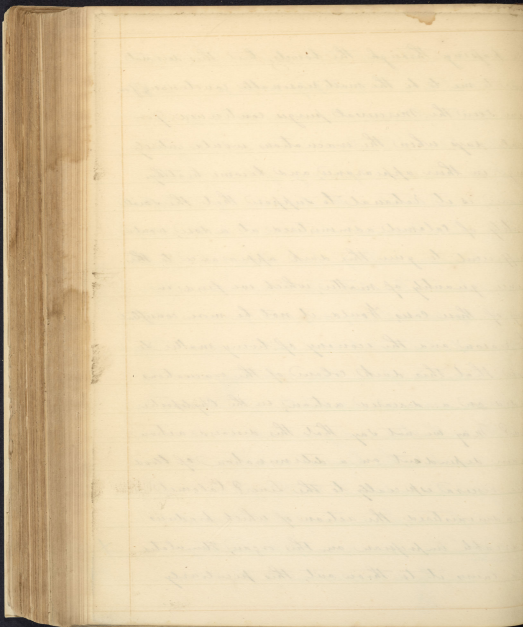


may resort to the use of the bark, in combination
with Serpentaria, with safety and good effect.

In this form of disease there is a want of the nat-
ural function of the liver, and instead of a re-
dundancy there is a deficiency of bile. You may
purge your patient with the ordinary cathartics,
as Scalap, Aloe, Senna, or the neutral salt, and you
bring from him nothing but the vitiated secretion
of the bowels. In this state of things administer a
large dose of calomel (say 40 grains) for a small
dose seems at this time to be of little service) and you
revive the energies of the liver, which appear to
have lain dormant, under the operation of
every other cathartic, and you have a copious
discharge of bile, this however is not natural
as far from this indeed, it has the appearance and
consistence of tar. I am aware that it is asserted
by some that this appearance of the discharge is
dependent on the decomposition of the calomel.

while passing through the bowels, but this does not
appear to me to be the most reasonable conclusion for
I have seen the mercurial purges continued for
several days when the evacuations would entirely
change in their appearance, and become healthy.
Moreover, is it rational to suppose that the small
quantity of calomel administered at a dose, would
be sufficient to give this dark appearance to the
immense quantity of matter, which we find in
many of these cases. Would it not be more consistent
with reason and the economy of living matter to
suppose that this dark colour of the evacuations
depended on a diseased action, in the Chyliferous
viscera? May we not say that this diseased action
is again dependant on a determination of blood
to these viscera, especially to the Liver? Calomel
being administered, the action of which produces
a marcable impression on this organ, stimulates
it and causes it to throw out, this peculiarly

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fetid and unnatural secretion, its natural
 function being suspended by the disease present.
 I will admit that you may purge a man in
 apparent good health with calomel, until you
 produce this black discharge, but I contend
 that by the action of your medicine you
 first produce a derangement of the natural
 function of the liver. And is not this too
 often done by calomel?

Diaphoretic

By
John H. King

of the United States Army

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